REMARKS/ARGUMENTS

This amendment is submitted in response to the Office Action mailed November 16, 2006. Claims 1 and 18 are amended to more clearly recite features of the claimed invention. Claims 1, 3-9, 11-18, 20-23 and 25-28 remain pending in the application. A total of 24 claims remain pending in the present application. The present amendments have been made to expedite the allowance of the application and for no other reason. In preparing the above-noted amendments, careful attention was paid to ensure that no new subject matter has been introduced. Reconsideration of this application is respectfully requested.

Rejections under 35 USC § 102 and 103(a)

The Examiner rejected claims 1, 3-9, 11-18, 20-23, 25-28 under 35 USC § 102(e) as being anticipated, or in the alternative, under 35 U.S.C. 103(a) as obvious over United States Patent No. 6,594,268 to Aukia et al. (Aukia). Applicant respectfully traverses the Examiner's rejection.

Claim 1 as amended recites a system for conveying an arbitrary mixture of high and low latency traffic streams across a common switch fabric, the system comprising: at least two diverse paths mapped through the switch fabric from a common input interface to a common output interface, each path being optimized to satisfy respective different traffic latency requirements; a latency classifier adapted to route each one of the traffic streams received at the input interface to one of the at least two diverse paths based upon a latency requirement of each traffic stream most closely matching the respective traffic latency of each of the at least two diverse paths; at least two prioritization classifiers, each one of the prioritization classifiers associated with one of the at least two diverse paths, each prioritization classifier independently prioritizes traffic being conveyed through the respective path; and wherein each one of the traffic streams received at the common input interface is routed to one of the at least two diverse paths by the latency classifier and each of the at least two diverse paths are processed independently by the respective prioritization classifiers before transport through the switch fabric to the common output interface.

Claim 18 as amended recites a method of conveying an arbitrary mixture of high and low latency traffic streams across a common switch fabric, the method comprising the steps of: mapping at least two diverse paths through the switch fabric from a common input

interface to a common output interface, each path being optimized to satisfy respective different traffic latency requirements; routing each traffic stream received at the common input interface to a selected one of the at least two diverse paths, the selected path being optimized to satisfy latency requirements most closely matching a respective latency of the traffic stream; and processing traffic in each of the at least two diverse paths by independently prioritizing the traffic to be conveyed through the switch fabric by each respective path to a common output interface.

In reviewing the disclosure of the cited reference Aukia, Applicant cannot agree that it anticipates or renders Applicant's claimed invention obvious. Aukia discloses a single thread or linear processing of traffic through a router prior to routing onto multiple paths at the output of a router onto a designated path. Routing of the packet flows is based on QoS provisioning commitments utilized as parameters to enable the output path selection. The routing of network traffic is enabled by converting the provisioning entries into filter rules, which are then loaded into the packet classifier of the router. *"Once the new routing is determined, routing of network traffic is enabled by converting the provisioning entries into filter rules, which are then loaded into the packet classifier of the router"* [abstract]. Aukia discloses processing the traffic stream at a common input interface 204, classifying the packet 203, buffering the packet 205 and using a route allocation processor 206 to send the packet to the output interface 206 as shown in Fig. 2. The routing processor 202 provides for an adaptive routing calculation, and also possibly new weighting calculations, to determine new routing provisioning entries and weights based on QoS-guarantee provisioning and network topology information stored within the processing section 200 [col. 11 lines 5-9]. The packet classifier 203 contains one or more packet filters determining filter rules to be applied to each packet received [col. 10 lines 14-16]. All packets entering the router of Aukia go through a single packet classifier 203 which determines the route allocation 206. *"The filter rules are employed to route packet flows with corresponding identifiers from input ports to output ports of the router based on the action associated with the filter rule"* [col. 11, lines 64 to 67].

In Aukia once the packet is assigned to the route leaving the router, no further processing occurs when the packet is placed on the output link interface 207 [col. 9, lines 60 to 66, col. 10, lines 3 to 23] and is clearly evident in Fig. 2. This results in individual packets from a traffic stream being routed to a specific path at the output of the router itself. *"The new routing determined by the path-selection process is provided as provisioning entries of a routing table. The provisioning entries of the table are defined for each packet flow."* [col.

12, lines 1 to 4]. Although the cited description [col. 8, lines 52 to 67] states *"...that multi-path routing occurs when flows of a source-destination pair are split, with different ones of the sets of traffic allocated to different new paths, and hence links, through the network"*, processing still occurs as a single chain through common elements to the output interface of the router. There is no suggestion of further prioritizing or processing once the packet is allocated to a path, either internally or externally, relative to the latency requirements of the traffic stream within the router or switch fabric itself. All filtering, classification, prioritization of the traffic stream must be done before route selection to determine the outgoing route in Aukia to the output of the router. There is no suggestion of routing traffic to paths through the switch fabric of the router

In the Office Action it is asserted that Aukia discloses *"at least two prioritization classifier [col. 10, lines 3-23] is associated with one of the at least two diverse paths [col. 9, lines 60-66, col. 10, lines 3-23]; each prioritization classifier adapted to control a priority of the traffic stream being conveyed through the respective path citing [col. 11, lines 12-39]"*, which refers to Fig. 3 of Aukia. Applicant cannot find reference in section col. 10, lines 3-23 to a prioritization classifier or anything similar. In addition, the reference to two diverse paths as asserted by the Examiner in col. 9, lines 60-66 and col. 10, lines 3-23 clearly talks about routing to an output path as an end point of the processing sequence and not to a path through the switch fabric as disclosed in the present invention. In addition, the flow chart shown in Fig. 3 of Aukia defines adaptive routing for determining a selected path through the path-selection process to an output of a router, not processing through the router. In Aukia path selection through the switch fabric is not based upon the latency of a path through the switch fabric relative to latency requirement of the traffic stream and in fact is not contemplated at al.

In contrast, the present invention enables efficient transport of traffic flows from a common input interface to a common output interface with differing latency requirement through a common switch fabric by diverse latency optimized paths. Paths are mapped through the switch infrastructure with each path optimized to satisfy respective different traffic latency requirements. Traffic streams entering the input interface are classified based upon latency [30, Fig. 3] requirements of the traffic stream and routed to the path which best meets the latency requirements. The traffic streams associated with each mapped path can then be processed by independent prioritization classifiers [32 & 38, Fig. 3, page 15 paragraph 0040] as recited in independent claims 1 and 18. The tiered process of routing the traffic stream through the node based upon latency and then independently processing each

stream based upon priority is clearly unique and provides advantages not contemplated by Aukia. The processing of the traffic stream to paths mapped through the switch fabric allows for further prioritization thus allowing a mixture of low and high latency traffic streams to be concurrently routed through a common switch fabric more efficiently. The independent prioritization enables QoS objectives for the specific traffic streams through the switch fabric to be met at a latency level and priority level is not provided by Aukia. Aukia does not contemplate or disclose optimizing data stream paths based upon latency through the switch fabric of the router itself nor contemplate prioritizing each path and the associated traffic streams independently once the selected path through the switch fabric has been determined. By implementing a multi-dimensional traffic classification scheme using multiple orthogonal traffic classification methods, successively implemented for each traffic stream traversing the switch fabric, desired QoS can be achieved and undesirable variations in the speed with which the data can be transported across the switch can be controlled. In Aukia data is routed through the router in a linear process to a selected output. Once the output is selected there is no further processing being performed on the traffic stream. The routing of traffic through the switch fabric is not in and of itself optimized in any manner. Applicant's claimed invention clearly differs from Aukia.

In view of the preceding comments, it is therefore submitted that the present invention is not anticipated and would not be obvious to a person of ordinary skill in the art in view of Aukia as there is no suggestion of processing traffic through the switch fabric in this manner. Applicant therefore submits that amended claims 1 and 18 present subject matter not taught or suggested by Aukia and therefore respectfully requests that the Examiner's rejection be withdrawn. As independent claims 1 and 18 present subject matter patentable over Aukia, dependent claims 3-9, 11-17, 20-23 and 25-28 should also likewise be deemed patentable.

Accordingly, it is respectfully submitted that the presently claimed invention is clearly distinguishable over the teaching over the cited reference. Thus it is believed that the patent application is in a condition for allowance and early action in that respect is courteously solicited.

Respectfully submitted,

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